

**PUBLIC SERVICE COMMISSION OF WISCONSIN**

Quadrennial Planning Process

5-GF-191

Avoided Energy Cost Forecast Method

ORDER

In its July 2010 decisions in Phase Two of the Quadrennial Planning Process for the statewide Focus on Energy (Focus) program, the Commission determined that avoided energy costs used to value the benefits of energy efficiency should be based on the most recent three-year historical average of Locational Marginal Prices (LMP). As a result of that decision, the Program Administrator encountered several challenges in the actual implementation of Focus programs. The volatility of LMPs in the short run limits the ability of the Focus Program Administrator to offer consistent programming to customers and trade allies from year to year. Additionally, a three-year historical average of LMPs was unlikely to represent long-run avoided costs. This is inconsistent with other decisions the Commission made during the Quadrennial Planning Process that take into account the future value of energy savings, such as the establishment of lifecycle savings contract goals and use of a 2.0 percent discount rate.

In its *Order* issued January 13, 2012, the Commission determined that while avoided capacity shall continue to be based on the cost of a new peaking plant, it was appropriate to revise the basis for valuing avoided energy costs so that it is based on long-term price forecasts. The Commission directed the Evaluation Work Group (EWG) to develop and recommend to the Commission an appropriate method for valuing avoided energy costs.

On April 10, 2012, the EWG submitted its recommendation to the Commission. The method developed by the EWG was influenced by criteria such as the forecast horizon necessary to evaluate the Focus program, regional specificity, completeness, transparency and legitimacy, and implementation feasibility. Based on these criteria, the EWG recommended a forecast method wherein avoided cost would be equal to a forecasted LMP value, plus a fixed capitalized energy cost. Use of a 30-year forecast time horizon would facilitate the estimation of savings over the maximum allowed timeframe typically claimed for energy efficiency and renewable resource measures.

The LMP forecast would be generated using the outputs from the Midwest Transmission Expansion Plan (MTEP) process of the Midwest Independent Transmission System Operator, Inc. (MISO), by means of an extrapolation and interpolation technique agreed upon by the Focus Program Evaluator and MISO staff. The LMP forecast would reflect the average LMP across Wisconsin nodes under the MTEP forecast outputs. As the MTEP includes LMP forecasts under a number of future scenarios, the average forecast outputs under all final MTEP scenarios would be used.

The capitalized energy cost would represent a levelized fixed capital and fixed operation and maintenance cost, and would be based on values from the U.S. Department of Energy's Energy Information Agency for a variety of baseload and intermediate generation technologies. Based on an expectation that conventional or advanced combined-cycle natural gas generators would play a significant role over the forecast horizon, the EWG recommended a capitalized energy cost of 2 cents per kilowatt-hour for the remainder of the 2011-2014 quadrennium.

The EWG believed that in sum total this avoided cost method reflects both the MISO wholesale electricity market within which Wisconsin utilities operate, as well as the fact that plants in Wisconsin and other Midwest states are typically regulated retail rate-based, or under bilateral contracts, which can cause some energy costs to be recovered through channels other than the wholesale market.

At its open meeting of May 4, 2012, the Commission considered whether to approve the avoided cost forecast method recommended by the EWG.

The Commission finds that it is appropriate to include a long-term forecast of MISO LMPs based on the MTEP process in the determination of avoided energy cost for the purposes of evaluating the Focus program. MISO LMPs are a reasonable proxy for the wholesale energy prices Wisconsin utilities would pay in the absence of energy efficiency measures. The Commission finds the method recommended by the EWG to forecast LMPs to be reasonable.

The Commission does not find it appropriate to include a fixed capitalized energy component in the calculation of avoided energy cost. While the EWG does present a reasonable theoretical basis for its recommendation, Wisconsin currently has sufficient generation capacity such that avoided new capital costs are likely to be very low for the foreseeable future. As such, inclusion of the capitalized energy component would result in an overstatement of Focus savings.

The Commission finds the EWG's recommendation reasonable that the use of the avoided cost method approved by the Commission in this Order is limited to the context of Focus program evaluation and is not intended as a recommendation for any other purposes outside of this scope without Commission consideration of that purpose.

Commissioner Callisto dissents and writes separately (attached).

IT IS ORDERED:

1. For the purposes of evaluating the Focus program, avoided energy cost shall be equal to a forecasted LMP that is the average of LMPs across Wisconsin nodes.
2. Futures scenarios and forecast outputs from the most current MISO MTEP shall be used as inputs in forecasting avoided cost LMPs.
3. The average of the forecast outputs across all final MTEP scenarios shall be used as the avoided energy cost.
4. The avoided energy cost values shall be updated for each new Focus quadrennium, and may be updated at other times if deemed appropriate by the EWG, consistent with the method approved in this Order.
5. The use of the avoided cost method approved in this Order is limited to the context of Focus program evaluation.
6. Jurisdiction is retained.

Dated at Madison, Wisconsin, this 18th day of June, 2012.

By the Commission:



Sandra J. Paske
Secretary to the Commission

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See attached Notice of Rights

PUBLIC SERVICE COMMISSION OF WISCONSIN
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**NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE
TIMES ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE
PARTY TO BE NAMED AS RESPONDENT**

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of mailing of this decision, as provided in Wis. Stat. § 227.49. The mailing date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. In a contested case, the petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of mailing of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of mailing of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission mailed its original decision.¹ The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised: December 17, 2008

¹ See *State v. Currier*, 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.

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5-GF-191

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DISSENT OF COMMISSIONER ERIC CALLISTO

I dissent from the Commission's *Order* adopting an avoided energy cost methodology for use in evaluating Focus on Energy programs that is based solely on forecasted Midwest Independent Transmission System Operator, Inc. (MISO), Locational Marginal Prices (LMPs) and which fails to include a capitalized energy component. I do so because an LMP-only approach to calculating avoided energy costs ignores how Wisconsin utility customers actually pay for electricity: through tariff rates based on embedded costs (which include capital investment components), not wholesale market energy prices (which largely do not include the embedded capital costs that are reflected in Wisconsin retail rates).

Earlier this year, the Commission directed an Evaluation Work Group, made up of Commission staff and representatives from utilities and outside expert consultant firms, to develop a recommendation for an appropriate avoided cost methodology to use in evaluating Focus on Energy programs. The Evaluation Work Group's recommended methodology included both a forecasted LMP value and a fixed capitalized energy cost of 2 cents per kilowatt-hour. The capital cost component was meant to reflect the potential cost of new capital investment (e.g., generation, transmission, or pollution control upgrades) that could be avoided through energy efficiency measures.

The Commission opted to not include the capital cost component in the avoided energy cost calculation method because “Wisconsin currently has sufficient generation capacity such that avoided new capital costs are likely to be very low for the foreseeable future.”¹ The Commission’s reasoning is flawed. It ignores how capital investments in both transmission and pollution control projects (not just generation) are driven by energy and demand growth and that the need for those types of projects may at least in part be offset by energy efficiency and demand response initiatives. No one seriously questions the fact that new transmission and pollution control projects will continue to be proposed in Wisconsin, that the capital costs for those projects will be something more than “very low,” or that they will be reflected in retail rates. Indeed, the Commission’s most recent *Draft Strategic Energy Assessment* plainly acknowledges that because of the latest slate of updated federal air pollution rules, “Wisconsin utilities will have to respond with new or retrofitted generation facilities”² The suggestion of “very low” new capital costs for the foreseeable future is not supportable.

The Commission’s *Order* also contends that including a capital cost component in the avoided energy cost methodology “would result in an overstatement of Focus on Energy savings.”³ The reality is that capital costs are routinely included in the program evaluation practices of most other states with ratepayer-funded energy efficiency programs. According to a recent survey from the American Council for an Energy-Efficient Economy (ACEEE), more than 60 percent of the states that responded include capital costs in avoided cost methodologies, and

¹ See *Order* in this docket, 5-GF-191, at 3.

² See *Draft Strategic Energy Assessment* in docket 5-ES-106, at 4 (PSC REF#: 166622).

³ See *Order* in this docket, 5-GF-191, at 3.

more than 80 percent include some value for avoided transmission and distribution costs.⁴

Counting avoided capital costs appears to be the rule rather than the exception.

Finally, during the Commission's open meeting discussion, it was posited that an avoided cost value of 7 cents per kilowatt-hour⁵ would be so unreasonably high that it would surpass some of the advanced renewable tariffs offered by Wisconsin utilities. While some of the utilities' biogas buyback rates include off-peak components that are less than 7 cents per kilowatt-hour, the average rate (taking into account on-peak components) for all but one of the renewable buyback tariffs well exceeds 7 cents. The one utility biogas buyback rate that is less than 7 cents is Madison Gas and Electric Company (MGE), at about 6 cents per kilowatt-hour. However, in that tariff's several years of being offered, not one customer has subscribed to it; and so it is simply not a meaningful means of comparison. The same is true of the 6 cents per kilowatt-hour that MGE offers for wind: no one subscribes. The fact that these non-compensatory tariffs exist provides nothing of additional value to the assessment of the reasonableness of the Evaluation Work Group's recommended capitalized energy cost of 2 cents per kilowatt-hour.

The evaluation of Focus on Energy programs is meant to assess the benefits and costs of the programs to utility customers. Part of the benefit is the cost of energy avoided through implementation of energy efficiency, and part of the energy cost avoided is whatever capital investment may be offset through energy efficiency. We should have concurred with the

⁴ See ACEEE's "A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs" at pp. 18, 32, and 37 (February 2012).

⁵ The 7 cents per kilowatt-hour value is the sum of 5 cents per kilowatt-hour (a Commission staff estimate of the LMP forecasted avoided costs) plus 2 cents per kilowatt-hour (the Evaluation Work Group's recommended capitalized energy cost adder).

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Evaluation Work Group's thoughtful recommendation and adopted an avoided cost methodology that more accurately reflects how Wisconsin utility customers pay for electricity.

I respectfully dissent.

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